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10/647,397

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Larry D. Hewitt

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EXAMINER

DANG, KHANH

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/647,397	<b>Applicant(s)</b> HEWITT ET AL.	
	<b>Examiner</b> Khanh Dang	<b>Art Unit</b> 2111	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 8-17, 19 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8-17, 19, AND 21-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Notice to Applicants*

**This application, previously assigned to and examined by Ex. King, is now assigned to Ex. Dang. Any future contact should be directed to Ex. Khanh Dang whose contact information is provided at the end of this Office Action.**

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “transmit controller,” “receive controller,” “width register” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Priority***

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date as set forth in MPEP 201.07:

A continuation is a second application for the same invention claimed in a prior nonprovisional application and filed before the original prior application becomes abandoned or patented. The continuation application may be filed under **37 CFR 1.53(b)** (or 1.53(d) if the application is a design application). The applicant in the continuation application must include at least one inventor named in the prior nonprovisional application. The disclosure presented in the continuation must be the same as that of the original application; i.e., the continuation should not include anything which would constitute new matter if inserted in the original application. The continuation application must claim the benefit of the prior nonprovisional application under **35 U.S.C. 120** or **365(c)**. >For more information on claiming the benefit of a prior nonprovisional application, see MPEP § **201.11**.<

The claimed subject matter of this application is NOT supported in the alleged prior parent application, and thus, this application is NOT a continuation application.

Therefore, Applicants are NOT entitled to the priority date afforded by the parent application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8-17, 19, 21-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Pawlowski et al. (Pawlowski, 5,911,053).

As broadly drafted and at best the Examiner can ascertain from the language of the claims, claims 1, 8-17, 19, 21-27 do not define any structure that differs from Pawlowski. Note that Applicants are NOT entitled to priority claim as discussed above. Therefore, the rejection under Pawlowski is a 102(b) rejection. In case Applicants are able to prove that this application is complied with one or more conditions for receiving the benefit of an earlier filing date as set forth in MPEP 201.07, the Pawlowski rejection is still valid under 35 USC 102(e).

With regard to claim 1, Pawlowski discloses a method of configuring a communication link interface in a first device, the method comprising: setting a transmit width of a transmit portion of the link interface for transmitting to a second

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device based on a usable transmit width; setting a receive width of a receive portion of the link interface for receiving from the second device based on a usable receive width, wherein the transmit and receive widths are separately specified (at the outset, in Pawlowki, a bus includes multiple data lines, each of which is capable of transferring one bit of data; and the total number of data lines in a bus is referred to as the data bus width. Further, in Pawlowski, any agent 400 can participate in a data transfer or, in another word, an agent can transmit request/data to another agent 400, and also receive request/data from another agent 400 in a data transfer operation. Still further, the bus in Pawlowski defines a so-called "communication link" and wherein, at least a portion of the bus is used to transmit and receive data. In Pawlowski, a data width indicator 401 sets a data width(s) or bus width(s) that is supported by agent 400 in a transmit phase of agent 400 to request data, for example. Note that more than one bus width can be transferred over multiple clock cycles. As noted above, agent 400 can also become a target agent to receive data in response to the request in a receiving phase of a data transfer operation; and data width indicator 401. As a receiving or target agent, the data width(s) or bus width(s) of at least a receiving portion of the bus is also set. It is clear from discussion above that data width(s) or bus width(s) for transmitting and data width(s) or bus width(s) for receiving are separately specified; see at least the abstract; column 8, line 31 to column 11, line 55; column 16, line 17-24).

With regard to claim 8, Pawlowski discloses a communication link interface in a first device comprising: a transmit controller to transmit data from a transmit portion of the link interface over a communication link coupling the first and a second device,

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wherein a width of data transmitted is set according to a value held in a programmable transmit width register; and a receive controller to receive data from the second device over the communication link into a receive portion of the link interface, wherein a width of data received is set according to a value held in a separately programmable receive width register (at the outset, in Pawlowki, a bus includes multiple data lines, each of which is capable of transferring one bit of data; and the total number of data lines in a bus is referred to as the data bus width. Further, in Pawlowski, any agent 400 can participate in a data transfer or, in another word, an agent can transmit request/data to another agent 400, and also receive request/data from another agent 400 in a data transfer operation. Still further, the bus in Pawlowski defines a so-called "communication link" and wherein, at least a portion of the bus is used to transmit and receive data. In Pawlowski, a data width indicator 401 sets a data width(s) or bus width(s) that is supported by agent 400 in a transmit phase of agent 400 to request data, for example. Note that more than one bus width can be transferred over multiple clock cycles. As noted above, agent 400 can also become a target agent to receive data in response to the request in a receiving phase of a data transfer operation; and data width indicator 401. As a receiving or target agent, the data width(s) or bus width(s) of at least a receiving portion of the bus is also set. It is clear from discussion above that data width(s) or bus width(s) for transmitting and data width(s) or bus width(s) for receiving are separately specified; see at least the abstract; column 8, line 31 to column 11, line 55; column 16, line 17-24). The data width indicator 401 is a preconfigured value. The indicator 401 can be preconfigured in any of a wide range of conventional manners,



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such as having particular pins of the agent 400 strapped to particular predetermined voltage levels which are sampled at system reset. It is to be appreciated that the data width indicator may also be re-configurable. For example, the data width indicator 401 may be stored in a flash memory device, or may be part of a configuration register which can be written to by software; see at least column 8, lines 36-52. Note that the width indicator 401 is separately programmed as agent 400 can be both a transmitting agent and also a receiving agent depending on the direction of the signal. As disclosed in the originally filed specification, one register is employed and separately programmed depending on the width register is programmed as a transmit width register or a receive width register).

With regard to claim 9, it is clear from discussion above that the value held in the programmable transmit width register 401 in Pawlowski indicates a usable transmit width. During the receiving phase, the width register 401 is re-programmed and becomes a receive width register; and the value held in the programmable receive width register indicates a usable receive width.

With regard to claim 10, it is clear that the usable transmit width is the lesser of a maximum transmit width of the transmit portion of the link interface and a maximum receive width of a receive portion of another communication link interface in the second device. For example, the usable transmit/receive width is 32 bit width while the maximum bus width is 128 bit bus width.

With regard to claim 11, it is clear that the usable transmit width is the lesser of a maximum transmit width of the transmit portion of the link interface and a maximum



receive width of a receive portion of another communication link interface in the second device. For example, the usable transmit/receive width is 32 bit width while the maximum bus width is 128 bit bus width.

With regard to claim 12, as discussed above, the width indicator 401 can be programmed to indicate a maximum bus width (128 bit, for example) indicating a physical bus width of the transmit portion of the bus. The width indicator 401 can also re-programmed to indicate a maximum bus width (128 bit, for example) indicating a physical bus width of the receive portion of the bus. Once the bus width register is re-programmed, it will become a different register. As disclosed in the originally filed specification, one register is employed and separately programmed depending on the width register is programmed as a transmit width register or a receive width register.

With regard to claims 13-17, 19, 21-27, see discussion above, since the subject matter presented in claims 13-17, 19, 21-27 has already been addressed.

Claims 1, 13-17, and 21-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Hewitt (6,202,116). Note that Applicants are NOT entitled to priority claim as discussed above.

At the outset, Applicants are reminded of their duty to disclose information material to patentability according to 37 CFR 1.56. Patent No. 6,202,116 is owned by the same inventor and assignee of this application; and clearly is material to patentability of this application.

With regard to claim 1, Hewitt discloses a method of configuring a communication link interface in a first device, the method comprising: setting a transmit width of a transmit portion of the link interface for transmitting to a second device based on a usable transmit width; setting a receive width of a receive portion of the link interface for receiving from the second device based on a usable receive width, wherein the transmit and receive widths are separately specified (in Hewitt, a data bus is divided into 2 portions. One portion of the bus transfers data from one side of the bus to the other and the other portion of the bus transfers data in the opposite direction. The portions may be divided up differently. For instance, the bus may be used in an application where more data generally flows in one direction than another. In such cases the bus may be configured to be 24 bits wide with the default mode being 16 bits in one direction and 8 bits in the other. Additionally, the 8 bit side may contend for only an additional eight bits of the bus or may contend for the additional sixteen. See at least the abstract, and column 6, lines 38-56).

With regard to claims 13-17 and 21-27, see discussion above, since the subject matter presented in these claims has already been discussed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 8-12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hewitt (6,202,116).

As discussed above, Hewitt discloses the claimed invention.

Hewitt does not disclose the use of a width register. Note that as disclosed in the originally filed specification, one register is employed and separately programmed depending on the width register is programmed as a transmit width register or a receive width register.

However, the use of a width register of transmit bus width and receive bus width is old and well-known as evidenced by at least Pawlowski.

Pawlowski discloses that data width indicator 401 is a preconfigured value for the purpose of dynamically supporting for different data widths on a transaction-by-transaction basis, and accounting for data widths supported by the agents in each transaction (see at least column 1, lines 51-54). The indicator 401 can be preconfigured in any of a wide range of conventional manners, such as having particular pins of the agent 400 strapped to particular predetermined voltage levels which are

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sampled at system reset. It is to be appreciated that the data width indicator may also be re-configurable. For example, the data width indicator 401 may be stored in a flash memory device, or may be part of a configuration register which can be written to by software; see at least column 8, lines 36-52. Note that the width indicator 401 is separately programmed as agent 400 can be both a transmitting agent and also a receiving agent depending on the direction of the signal.

Since Hewitt and Pawlowski are both from the same field of endeavor, the purpose disclosed by Pawlowski would have been recognized in the pertinent art of Hewitt.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Hewitt with a programmable bus width register, as taught by Pawlowski, for the purpose discussed above.

### ***Response to Arguments***

Applicant's arguments filed 10/16/2006 have been considered but are moot in view of the new ground(s) of rejection.

### ***Relevant Art***

US Patent Nos. 6,629,185 to Silver et al., 5,613,078 to Kishigami, 5,768,546 to Kwon, 5,812,798 to Moyer et al., 6,381,664 to Nishtala et al., 7,043,592 to Nagano, 7,013,360 to Lee, and 6,226,736 to Niot are cited as relevant art.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Dang whose telephone number is 571-272-3626. The examiner can normally be reached on Monday-Friday from 9:AM to 5:PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart, can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Khanh Dang  
Primary Examiner